

We claim:

1. A method of occluding the ovarian pathway of a female body, said method comprising the steps of:

5 applying a heating element to a target segment of the pathway, and operating the heating element to heat the target segment in the pathway;

limiting the heating of the target segment by applying power of 0.1 to 5 watts to the heating element for a period of at least about 5 seconds;

10 installing a plug into the target segment of the pathway.

2. The method of claim 1 additionally comprising the step of providing the heating element in the form of at least one electrode adapted for application to the ovarian pathway.

15 3. The method of claim 2 additionally comprising the step of applying RF energy to the target segment through the electrode.

4. The method of claim 1 additionally comprising the step of providing the heating element in the form of at least two electrodes adapted for application to the ovarian pathway, and applying bi-polar RF energy to said electrodes.

20 5. The method of claim 1 additionally comprising the step of providing the heating element in the form of at least one resistive heating element adapted for application to the ovarian pathway.

25 6. The method of claim 1 additionally comprising the step of providing the heating element in the form of at least one

microwave heating element adapted for application to the ovarian pathway.

7. The method of claim 1 additionally comprising the step of providing the heating element in the form of at least one
5 ultrasound heating element adapted for application to the ovarian pathway.

8. The method of claim 1 additionally comprising the step of providing the heating element in the form of at least one laser heating element adapted for application to the ovarian pathway.

10 9. The method of claim 1 additionally comprising the step of providing the plug in the form of a reticulated foam plug having pores with pore sizes in the range of 40 to 200 microns.

10. The method of claim 1 additionally comprising the step of providing the plug in the form of a reticulated foam plug having
15 pores with pore sizes in the range of 1 to 20 microns.

11. The method of claim 9 additionally comprising the step of providing the foam plug in the form of silicone foam having a durometer value of 20-100 Shore A.

12. The method of claim 9 additionally comprising the step of
20 providing the foam plug in the form of silicone foam having a durometer value of about 60 Shore A.

13. The method of claim 9 additionally comprising the step of providing the foam plug in the form of an ePTFE plug.

14. The method of claim 9 additionally comprising the step of
25 providing the foam plug in the form of an acrylic copolymer plug.

15. The method of claim 10 additionally comprising the step of providing the foam plug in the form of silicone foam having a durometer value of 20-100 Shore A.

16. The method of claim 10 additionally comprising the step of 5 providing the foam plug in the form of silicone foam having a durometer value of about 60 Shore A.

17. The method of claim 10 additionally comprising the step of providing the foam plug in the form of an ePTFE plug.

18. The method of claim 10 additionally comprising the step of 10 providing the foam plug in the form of an acrylic copolymer plug.

19. A method of occluding the ovarian pathway of a female body, wherein the ovarian pathway is lined by an epithelial layer on the inner surface of the ovarian pathway, and wherein the 15 ovarian pathway is further characterized by a lamina propria layer surrounding the epithelial layer, a circular muscle layer surrounding the lamina propria layer and a longitudinal muscle layer surrounding the circular muscle layer, said method comprising the steps of:

20 applying a wounding element in the form of a catheter-mounted heating element and operating the wounding element to cause a wound in the segment of the pathway that necroses the epithelial layer;

25 limiting the outward extent of the wound to the circular muscle layer by limiting the heating of the target segment by applying power of 0.1 to 5 watts to the heating element for a period of at least about 5 seconds;

installing a foam plug comprising a reticulated foam into the wounded segment of the pathway; and

allowing the wounded segment of the pathway to heal with the foam plug installed.

5 20. The method of claim 19 additionally comprising the step of providing the heating element in the form of at least one electrode adapted for application to the ovarian pathway.

21. The method of claim 20 additionally comprising the step of applying RF energy to the target segment through the electrode.

10 22. The method of claim 19 additionally comprising the step of providing the heating element in the form of at least two electrodes adapted for application to the ovarian pathway, and applying bi-polar RF energy to said electrodes.

15 23. The method of claim 19 additionally comprising the step of providing the heating element in the form of at least one resistive heating element adapted for application to the ovarian pathway.

20 24. The method of claim 19 additionally comprising the step of providing the heating element in the form of at least one microwave heating element adapted for application to the ovarian pathway.

25 25. The method of claim 19 additionally comprising the step of providing the heating element in the form of at least one ultrasound heating element adapted for application to the ovarian pathway.

26. The method of claim 19 additionally comprising the step of providing the heating element in the form of at least one laser heating element adapted for application to the ovarian pathway.

27. The method of claim 19 additionally comprising the step of providing the plug in the form of a reticulated foam plug having pores with pore sizes in the range of 40 to 200 microns.
28. The method of claim 19 additionally comprising the step of providing the plug in the form of a reticulated foam plug having pores with pore sizes in the range of 1 to 20 microns.
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29. The method of claim 27 additionally comprising the step of providing the foam plug in the form of silicone foam having a durometer value of 20-100 Shore A.
- 10 30. The method of claim 27 additionally comprising the step of providing the foam plug in the form of silicone foam having a durometer value of about 60 Shore A.
31. The method of claim 27 additionally comprising the step of providing the foam plug in the form of an ePTFE plug.
- 15 32. The method of claim 27 additionally comprising the step of providing the foam plug in the form of an acrylic copolymer plug.
33. The method of claim 28 additionally comprising the step of providing the foam plug in the form of silicone foam having a
20 durometer value of 20-100 Shore A.
34. The method of claim 28 additionally comprising the step of providing the foam plug in the form of silicone foam having a durometer value of about 60 Shore A.
35. The method of claim 28 additionally comprising the step of providing the foam plug in the form of an ePTFE plug.
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36. The method of claim 28 additionally comprising the step of providing the foam plug in the form of an acrylic copolymer plug.

37. A method of occluding the ovarian pathway of a female body,
5 the ovarian pathway being characterized by an epithelial layer lining the inside of the ovarian pathway, a lamina propria layer surrounding the epithelial layer, a circular muscle layer surrounding the lamina propria layer and a longitudinal muscle layer surrounding the circular muscle layer, said method
10 comprising the steps of:

applying a heating element to a target segment of the pathway, and operating the heating element to heat the target segment in the pathway;

15 limiting the heating of the target segment to avoid wounding the longitudinal layer by limiting the heating of the target segment by applying power of 0.1 to 5 watts to the heating element for a period of at least about 5 seconds;

installing a plug into the target segment of the pathway.

20 38. The method of claim 37 additionally comprising the step of providing the heating element in the form of at least one electrode adapted for application to the ovarian pathway.

39. The method of claim 38 additionally comprising the step of applying RF energy to the target segment through the electrode.

25 40. The method of claim 37 additionally comprising the step of providing the heating element in the form of at least two electrodes adapted for application to the ovarian pathway, and applying bi-polar RF energy to said electrodes.

41. The method of claim 37 additionally comprising the step of providing the heating element in the form of at least one resistive heating element adapted for application to the ovarian pathway.

5 42. The method of claim 37 additionally comprising the step of providing the heating element in the form of at least one microwave heating element adapted for application to the ovarian pathway.

10 43. The method of claim 37 additionally comprising the step of providing the heating element in the form of at least one ultrasound heating element adapted for application to the ovarian pathway.

15 44. The method of claim 37 additionally comprising the step of providing the heating element in the form of at least one laser heating element adapted for application to the ovarian pathway.

45. The method of claim 37 additionally comprising the step of providing the plug in the form of a reticulated foam plug having pores with pore sizes in the range of 40 to 200 microns.

20 46. The method of claim 37 additionally comprising the step of providing the plug in the form of a reticulated foam plug having pores with pore sizes in the range of 1 to 20 microns.

47. The method of claim 45 additionally comprising the step of providing the foam plug in the form of silicone foam having a durometer value of 20-100 Shore A.

25 48. The method of claim 45 additionally comprising the step of providing the foam plug in the form of silicone foam having a durometer value of about 60 Shore A.

49. The method of claim 45 additionally comprising the step of providing the foam plug in the form of an ePTFE plug.

50. The method of claim 45 additionally comprising the step of providing the foam plug in the form of an acrylic copolymer
5 plug.

51. The method of claim 46 additionally comprising the step of providing the foam plug in the form of silicone foam having a durometer value of 20-100 Shore A.

52. The method of claim 46 additionally comprising the step of
10 providing the foam plug in the form of silicone foam having a durometer value of about 60 Shore A.

53. The method of claim 46 additionally comprising the step of providing the foam plug in the form of an ePTFE plug.

54. The method of claim 46 additionally comprising the step of
15 providing the foam plug in the form of an acrylic copolymer plug.